

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A compact fluorescent lamp package comprising:
a base for electrically connecting said lamp package to an electrical socket which is capable of receiving a base of an ordinary incandescent lamp, said base including an open end and a closed end and a wall surrounding said closed end to provide an enclosure around a space;
a multi-chip module including a complete ballast circuit contained entirely within said space in said base and electrically connected to said base to receive power through said base; and
a fluorescent lamp extending away from said base and operatively connected to said ballast circuit.
2. (Original) A compact fluorescent lamp package according to claim 1, further comprising a diffuser cover disposed around said fluorescent lamp to provide said lamp package with an appearance of an ordinary incandescent lamp.
3. (Original) A compact fluorescent lamp package according to claim 1, wherein said base is a screw base.
4. (Original) A compact fluorescent lamp package according to claim 1, wherein said base is an Edison screw base.
5. (Original) A compact fluorescent lamp package according to claim 1, wherein said multi-chip module is formed on a single circuit board.
6. (Original) A compact fluorescent lamp package according to claim 5, wherein said ballast circuit includes elements disposed on both sides of said circuit board.

7. (Original) A compact fluorescent lamp package according to claim 6, wherein said elements include design dependant electronic components and design independent electronic components, said design dependant electronic components being disposed on one side of said circuit board and said design independent electronic components being disposed on another opposing side of said circuit board.

8. (Original) A compact fluorescent lamp package according to claim 6, wherein said design dependant electronic components include a filter inductor, a resonant inductor, a capacitor, and said design independent electronic components include power switching devices.

9. (Original) A compact fluorescent lamp package according to claim 1, further comprising thermal epoxy within said space in said base for mechanical stability and thermal management.

10. (Original) A compact fluorescent lamp package according to claim 1, wherein said multi-chip module comprises a circuit board that has a perimeter that generally follows the contour of the wall of said base.

11. (Original) A compact fluorescent lamp package according to claim 1, wherein said multi-chip module is formed on a generally circular circuit board.

12. (Original) A compact fluorescent lamp package according to claim 1, wherein said multi-chip module is formed on a generally rectangular circuit board.

13. (Original) A compact fluorescent lamp package according to claim 1, wherein said wall of said base serves as a connector for connecting said lamp to one pole of a power line, and said closed end of said base includes a connector insulated from said wall serving as a connector for connecting to another pole of said power line.

14. (Original) A compact fluorescent lamp package according to claim 1, wherein said multi-chip module is electrically connected to said wall of said base via a first electrical wire and electrically connected to a connector disposed on said end of said base via a second electrical wire.

15. (Original) A compact fluorescent lamp package according to claim 1, wherein said fluorescent lamp is connected to said multi-chip module via respective filament terminals.

16. (Original) A compact fluorescent lamp package according to claim 1, wherein said multi-chip module includes a circuit having at least one heatsink disposed on one major surface thereof, said heatsink being thermally connected through said circuit board to a heat-generating electronic component.

17. (Original) An electronic module comprising:
a circuit board including a body and having at least one power semiconductor device disposed on one major surface thereof;
a heatsink disposed on an opposing major surface thereof; and
a thermal connector inside said body of said circuit board extending between said heatsink and said power semiconductor device, whereby heat generated by said power semiconductor device may be transferred from said power semiconductor device to said heatsink and dissipated.

18. (Original) An electronic module according to claim 17, wherein said thermal connector is comprised of a metallic body.

19. (Original) An electronic module according to claim 17, wherein said thermal connector comprises a plurality of metallic bodies extending between said power semiconductor device and said heatsink through vias in said circuit board.

20. (Original) An electronic module according to claim 17, wherein said electronic module includes circuit elements for an electronic ballast.

21. (Original) An electronic module according to claim 17, wherein said body of said circuit board is comprised of a polymer.

22. (Original) An electronic module according to claim 17, wherein other components are disposed on said circuit in addition to said at least one power semiconductor device.

23. (Original) An electronic module according to claim 17, wherein other components are disposed on said first major and said second major surface of said circuit board, said components being operatively connected to form a multi-chip module.

24. (Original) A method for manufacturing a multi-chip module comprising:
connecting a first group of electronic components to respective positions on a circuit board in a first stage;
covering said first group of electronic components with a protective body;
connecting a second group of electronic components to their respective positions on said circuit board in a second stage, wherein said second group of components are connected in a single connection step.

25. (Original) A method according to claim 24, wherein said connecting said first group of electronic components is carried out by pick-and-place and chip-on-board techniques.

26. (Original) A method according to claim 24, wherein said connecting said second group of electronic components is carried out by a solder bath.

27. (Original) A method according to claim 24, wherein said first group of said electronic compounds are covered by a molding compound.

28. (Original) A method according to claim 24, wherein said first group of electronic components are connected to respective positions on one major surface of said circuit board, and said second group of electronic components are connected to a second opposing surface of said circuit board.

29. (Original) A method according to claim 24, wherein a general purpose motherboard is produced in said first stage of production.

30. (Original) A compact fluorescent lamp package according to claim 1, wherein said base is thermally coupled to said MCM to dissipate heat from said ballast circuit on said MCM.

31. (New) A compact fluorescent lamp comprising:
an electronic ballast control circuit formed on a circuit board;
a heatsink shaped as a base having a closed bottom portion and an open top, said electronic ballast control circuit being disposed in an interior space of said heatsink; and
a thermally conductive body in thermal communication with said heatsink and said ballast control circuit, whereby heat generated by said ballast control circuit is transmitted to said heatsink for dissipation.

32. (New) A compact fluorescent lamp according to claim 31, wherein said heatsink is an Edison screw base.

33. (New) A compact fluorescent lamp according to claim 31, further comprising a fluorescent lamp operatively connected to said electronic ballast, and a diffuser cover directly attached to said heatsink, wherein said diffuser cover surrounds said fluorescent lamp.

34. (New) A compact fluorescent lamp according to claim 33, wherein said diffuser cover is shaped like an ordinary incandescent light bulb.

35. (New) A compact fluorescent lamp according to claim 31, further comprising a circuit board having two opposing surfaces, wherein components for said electronic ballast control circuit are disposed on both said surfaces of said circuit board.

36. (New) A compact fluorescent lamp according to claim 31, wherein said electronic ballast control circuit is disposed entirely within said heatsink.

37. (New) A compact fluorescent lamp according to claim 31, wherein said thermally conductive body comprises a thermal epoxy, and wherein said thermally conductive body encapsulates said electronic ballast control circuit.

38. (New) A compact fluorescent lamp comprising:
a base having a bottom portion and an annular wall extending from said bottom portion and disposed around a space;
a circuit board having two opposing surfaces disposed in said space;
an electronic ballast circuit including a plurality of electronic components, said components being disposed on both surfaces of said circuit board;
a fluorescent lamp operatively connected to said electronic ballast; and
a diffuser cover directly attached to said base and surrounding said fluorescent lamp.

39. (New) A compact fluorescent lamp according to claim 38, wherein said base is an Edison screw base.

40. (New) A compact fluorescent lamp according to claim 38, wherein said diffuser cover is shaped like an ordinary incandescent light bulb.

41. (New) A compact fluorescent lamp according to claim 38, wherein said electronic ballast circuit is disposed entirely within said base.

42. (New) A compact fluorescent lamp according to claim 38, further comprising a thermally conductive body disposed within said base, said thermally conductive body being in thermal contact with said electronic ballast circuit and said base, wherein said thermally conductive body comprises a thermal epoxy.